



MISSOURI. Conservationist

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Landowners Make it Possible

vividly recall the first time I saw a mature bald eagle. It was 1972, early morning, in the middle of a cold and snowy northern Illinois winter, as I was driving along the Illinois River. The eagle was sitting in a large

sycamore tree eyeing an open spot in the river, waiting for its next meal of crippled waterfowl or fish.

I was just as awed a few weeks ago, driving through St. Martins with my wife, when an eagle swooped in, grabbed a gray squirrel with one talon and disappeared into the darkening sky, all in a matter of a few seconds.

Today, sightings of bald eagles occur throughout the year in central Missouri and nesting pairs are not uncommon along the Missouri River and in other parts of our state.

In Missouri, wildlife restoration has been no accident. Our natural resource recovery and conservation has evolved through a unique partnership. This partnership includes the collective wisdom of landowners, outdoor enthusiasts and government agencies. Missourians, in their efforts to restore and conserve Missouri's natural treasures, have demonstrated how to "get conservation right." We have moved beyond the challenges of the early years of restoring the state's forest, fish and wildlife resources.

While it is good to reflect as Missouri citizens' Conservation Department celebrates its 75th anniversary this year, it behooves us all not to get complacent. Conservation is as important today as it has been the past 75 years. Our planet supports 6 billion people exerting more demand on our natural resources than at any time in history. It is my belief that our relationship with landowners is even more critical today than it has been in the past.

John F. Kennedy said, "There is too little recognition of how much we all depend upon farmers as stewards of our soil,



Bald eagle nest

water and wildlife resources." How true! Growing up, I had the good fortune to live in rural northern Illinois. Farmers were some of my first employers and friends. Cleaning barns, walking beans, baling hay and helping with harvest gave me a real appreciation for people connected to the land. I have also had the good fortune in my 37-year career of natural resource conservation to work with many landowners in several states.

I have traveled to the four corners of our state and in between. I am always amazed at the diversity of landscapes. In Missouri 93 percent of the land is in private ownership and much of that is in production agriculture. Each day, dedicated agriculture professionals have to adapt

to the vagaries of the weather and understand the complexity of our economic times while ensuring that the soil, water, forest, fish and wildlife resources are intact for future generations. Strengthening the partnership between farmers, sportsmen and conservation agencies has never been more important if we are not only going to sustain soil, water and natural resources, but ourselves, as well.

Early spring is upon us. As you listen to the turkeys gobble, hunt for morel mushrooms, head out to fish or watch agriculture land come alive with the food that sustains us, think about the landowners who make it possible. If you know a landowner or have access to private land for your outdoor adventures, thank them for their commitment to the future.

Tom Draper, deputy director



FEATURES

8 **Bringing Back Wildlife**

by Brett Dufur

MDC is celebrating the 75th anniversary of putting the state's citizen-led conservation efforts into action. In this issue, we highlight the restoration and conservation of Missouri's wildlife.

16 **Bad-Weather Photography**

by Noppadol Paothong

Rain, snow and clouds add natural drama to your photos.

22 **Living With Large Carnivores**

by Jeff Beringer

Bear and mountain lion sightings have increased in the Show-Me State.

Cover: Big Spring in Van Buren

by Noppadol Paothong

Above: Sunrise at Eagle Bluffs Conservation Area
after a blizzard by Noppadol Paothong.

MISCELLANY

2 **Letters**

4 **News & Events**

5 **Ombudsman**

28 **Plants and Animals**

30 **Places To Go**

32 **Hunting and Fishing Calendar**

32 **Contributors**

ALL ABOUT ANGLING

In this month's *Conservationist* (March), *World Class Fishing* [Note to Our Readers] and *The Lure of Fishing* [Page 8] were a pleasure to read and made me proud to be a Missouri fisherman. Fishing the cool, clean Ozark streams here in Missouri is one of my passions. I feel I am truly blessed to have a Conservation Department so dedicated to the state of Missouri and its outdoor resources and activities.

Brian Curran, via Internet

I am unable to find the free fishing application for my phone that was mentioned in your magazine [*The Lure of Fishing*; Page 9]. Can you tell me the name of it, please, so I can download it?

Adam Blanch, via Internet

Editors' note: You can search your phone's app store for Find MO Fish, or visit mdc.mo.gov/node/15421 to learn more.

Many thanks for the beautiful *Conservationist* with the lovely redbud blossoms on the cover [March] and the precious photo of Johnny Morris and daughter on the back. I thoroughly enjoyed Larry R. Beckett's *Big Game Fishing*; I almost felt as if I were in the boat with them.

Doris McCann, St. Louis

FACEBOOK QUESTIONS

Do you think the winter we had, or lack-there-of, will put the bass and crappie into an earlier spawn?

Brian Hardwick

MDC: That is quite possible because spawning is triggered by water temperatures. Largemouth bass respond to surface water temperatures around 68 degrees, and crappie begin spawning at around 60 to 62 degrees. When we begin our weekly fishing reports in April, surface water temperatures are part of the data that will be included.

I found some false/red morels today. Does that mean the edibles are close to popping?

Reece Strawn

MDC: It is a bit early because morels usually begin appearing in early April. Our mild winter may prompt a bit of an early showing. Here is a link to interesting info on Munchable Morels, including when and where you can find them: mdc.mo.gov/node/4220.

I apparently managed to misplace my heritage card. Anyone know how I can get it replaced?

Paul Boxdorfer

MDC: You can order a replacement Heritage Card from any vendor where fishing and hunting permits are sold. They will collect a \$2 replacement fee and enter the request for the replacement card. You will receive the replacement card in the mail. Allow 4 to 6 weeks for delivery. You can also order the replacement card by calling 1-800-392-4115 or visiting mdc.mo.gov/node/9258. There is an additional \$2 fee for telephone or \$1 fee for Internet orders.



Reader Photo

EASTERN TENT CATERPILLAR

Dakota Lynch of Barnhart captured this image of an eastern tent caterpillar at Taum Sauk Mountain State Park. "I took this photo during a camping trip that was nearly rained out altogether," says Lynch. "On the last day of our trip there was finally a break in the clouds that lasted just long enough for me to head out and get a few decent shots." Many consider the eastern tent caterpillar a pest, because the caterpillars can significantly defoliate a tree in large numbers, but the tree usually recovers. "I've always been an avid deer and turkey hunter, but when I'm not looking for a trophy buck I'm looking for that once-in-a-lifetime photo," says Lynch.

CORRECTION

In the March issue, Page 7, *Did You Know?* segment included incorrect dates under "Trout Parks." It should have read: "Mark your calendar to be at Roaring River's events on Saturday, May 19, and Saturday, Aug. 18. Montauk's events are scheduled for Saturday, May 5, and Saturday, Aug. 4. Bennett Springs' event is scheduled for Saturday, May 5, and Maramec Spring's event is scheduled for May 19."



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Discover more about nature and the outdoors through these sites.

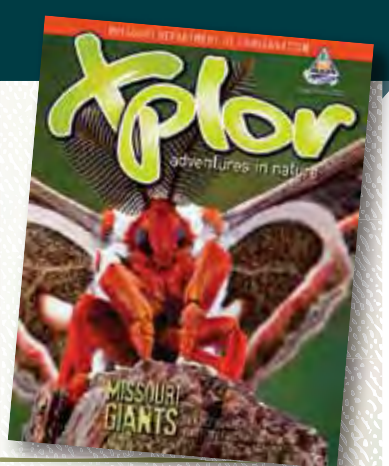
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Printed with soy ink



Buying a fishing permit is easy using our e-Permits system at mdc.mo.gov/node/9258.

Buy Fishing Permits Online

Missouri is a great place to hunt and fish. If you are planning a fishing or turkey-hunting trip this spring, remember that you can buy permits online, using the e-Permits system at mdc.mo.gov/node/9258. The system allows you to buy permits on any computer with Internet access and print and use them immediately.

All fishing and hunting and trapping permits and the Apprentice Hunter Authorization are available through e-Permits 24/7. E-Permits look like traditional permits and are about the same size.

Deer and turkey tagging procedures have changed with e-Permits. The main difference is that permits no longer include a removable transportation tag. Instead, the permit itself is the transportation tag.

Hunters are encouraged to put e-Permits inside zip-lock bags and attach them to deer or turkeys with string, twist-ties, wire, plastic cable ties or tape. Another option is to obtain free permit holders from a conservation agent. Protecting paper permits in this way will keep them readable and make it easier to write confirmation numbers on them when Telechecking deer and turkeys.

You can print a replacement copy of a permit. Permits may not be shared and additional copies of a permit do not provide additional valid permits for the buyer or others to use. Find more information about e-Permits at mdc.mo.gov/node/10900.

Alabama Rigs Legal?

Missourians care about conserving their fisheries resources. The growing popularity of a multi-lure fishing rig commonly called the Alabama rig has many anglers wondering whether it is legal and whether it could be so effective it hurts fishing. The answers are yes and no.

The Alabama rig, also known as an umbrella rig, consists of a jig head attached to several wire leaders, each tipped with a snap swivel. The arrangement makes it possible to fish several lures on one line, simulating a small school of baitfish. An umbrella rig is not considered a lure, because it is incapable of catching fish unless lures or baits are attached to it.

The *Wildlife Code of Missouri* allows no more than three lures or baits with hooks on each pole and line. So anglers may attach no more than three baits or lures with hooks to the rig.

Anglers can meet this requirement several ways. One is to put only three lures on the rig. Another is to put more than three lures on the rig but clip the hooks off all but three. This preserves the illusion of a school of fish without exceeding the legal number of hooks. Anglers also may attach spinner blades, marabou streamers or other hookless attractors to add flash and action.

Questions frequently arise concerning how to count treble hooks or lures such as crankbaits, with more than one hook. Under the *Wildlife Code*, treble and double hooks are the same as single hooks. Furthermore, any lure, such as a crankbait, is considered a single, hooked lure. So it is legal to put three crankbaits, each carrying three treble hooks, on an Alabama rig.

Women's Workshop, Sign Up Now!

Conservation helps women discover nature. Women can get hands-on outdoor skills training at the Discover Nature Women Summer Workshop, June 1–3, at the Windermere Conference Center in Roach on the Lake of the Ozarks. Courses include:

- Archery
- Basic hunting
- Canoeing
- Outdoor cooking
- Introduction to firearms
- Camping
- Fishing fundamentals
- Fly tying
- Map and compass
- Shotgun shooting

The workshop is open to women ages 18 and older, but girls age 14–17 may also attend when accompanied by an adult woman. The registration deadline is April 30, and a \$20 deposit is required at the time of registration. Your deposit fee will be returned when you check in at the event. To register, you must fill out a form and mail it in with your deposit check. You can find a PDF of the form to



FISHING: DAVID STONNER; WOMEN'S WORKSHOP: CLIFF WHITE

download and print, at mdc.mo.gov/node/3959 or you can call Lynn Merritt-Goggins at 573-522-4115, ext. 3808, or email at Lynn.Merritt-Goggins@mdc.mo.gov. Participants are responsible for making room and meal reservations with Windermere at 573-346-5200. For more information about the workshop, visit mdc.mo.gov/node/3958.

Conservationists of the Year

The Conservation Federation of Missouri (CFM) has named eight Missourians as its 2012 Conservationists of the Year. Each is proof of how deeply Missourians care about conservation.

Dave Pace, Salem, is chairman of the Rocky Mountain Elk Foundation. In presenting the award, CFM President Mike Schallon noted Pace's tireless efforts to promote Missouri's elk restoration program.

Keith Hannaman, Blue Springs, received the Conservation Educator of the Year Award for his work establishing an outdoor classroom for Blue Springs South School and for his involvement in state, national and international conservation education efforts.

Freelance writer Steve Jones, Sullivan, received the Conservation Communicator of the

Year Award for three decades of fighting for conservation causes.

Private landowner Frank Oberle, Novinger, received the Wildlife Conservationist of the Year Award for his contributions to prairie conservation.

Wayne Lovelace, Elsberry, received the Forest Conservationist of the Year Award. Lovelace is president and CEO of Forrest-Keeling Nursery. He has led several forestry organizations, and his development of the root-production method for growing tree seedlings has contributed significantly to restoration of bottomland hardwood forests.



ASK THE OMBUDSMAN

Q: Because turkeys nest on the ground, and the young birds can't fly, do the hens stay on the ground with the young at night?

A: Yes, the hen will roost on the ground at night with the young birds until they are about 2 weeks old. At that point, the poults can fly enough to roost off the ground and the hen will do so as well. As the poults get older and stronger, they'll all roost higher and higher in a roost tree.

Q: When I'm on my dock at the lake, I see bubbles rising through the water to the surface. First there are just a few, but soon the bubbles are everywhere. They wash into the end of the cove like soap suds. I don't see any small fish. What causes this?

A: Bubbles in the water can come from several sources. Through photosynthesis, aquatic plants and algae produce oxygen which forms bubbles that escape from the living plants and eventually come to the surface. The decay of organic material (wood, dead plants and animals) produces other gases as byproducts, such as carbon dioxide and sulphur dioxide. There is decaying material on the lake bottom as well as buried in the sediments below. The movement of fish disturbing the lake bottom can release gas bubbles. The slight movement of your dock when you

walk on it may be enough to dislodge gas bubbles from the lake sediments and allow them to float to the surface. The decay of organic materials in the water can lead to some compounds that have an oily texture. The action of waves or water movement on those materials can produce foam, similar to soap suds. This can be seen in lakes as well as in rivers and streams.



Turkey hen

Ombudsman Tim Smith will respond to your questions, suggestions or complaints concerning Department of Conservation programs. Write him at PO Box 180, Jefferson City, MO 65102-0180, call him at 573-522-4115, ext. 3848, or email him at Ombudsman@mdc.mo.gov.

Photo Tip of the Month: Composition

While good equipment is helpful, there are some basic steps you can take to improve your photography, without having to shell out a small fortune. It boils down to composition—what we decide to include in the frame, and where in the frame we put it. Here are a few pointers to better composition:

- **Fill the Frame.** Include only what is important to the image. If you are taking a picture of an animal, and only the animal is important to your photo, fill as much of the space with that animal as possible. However, if you are taking a landscape photo, you will likely want to include a wide area of the scene with a deep depth-of-field so the entire scene is in focus. This is still filling the frame as long as you only include what is important to convey the sense of the landscape you are trying to portray. If it isn't important to the message of the image, leave it out. Cleaner and simpler is usually better.
- **Move closer to your subject.** This is closely tied to the above pointer and is the simplest thing we can do to improve a lot of our photos.
- **Have a focal point.** Every image needs a strong, sharply focused element to catch the viewer's attention. In a close-up photo of an animal, it may be the animal's eyes. In a landscape photo, it may be a flower in the foreground.
- **Use the "rule of thirds."** Imagine a tick-tack-toe grid placed over your viewfinder. The rule of thirds suggests that, in most instances, the best place to put your focal point is at one of the four intersections of the lines. Notice that the lines do not intersect in the center of the frame.



📷 70–200mm lens • f/2.8 • 1/120 sec • ISO 100

The composition of this image includes only the essentials. It is tight on the subject, filling the frame with the hunter, the smoking gun and just enough of the background to give the image a sense of place. The focal point of the image, the hunter's face, is placed in the frame using the rule of thirds. All of these elements come together to create an image that is simple, dynamic and effective.

75th Anniversary of Conservation Photo Contest, Enter Now!

Remember to get out those cameras and search those photo files for your best images that celebrate the natural wonders of Missouri and the 75-year legacy of MDC. A full list of rules and guidelines can be found at mdc.mo.gov/node/16689.

(continued from Page 5)

Missouri State Senator Kevin Engler, Farmington, and State Representative Steven Tilley, Perryville, shared the Conservation Legislator of the Year Award. Both were cited for their commitment to enhancing and protecting natural resources.

Professional Conservationist of the Year Elsa Gallagher, Excello, began her career with MDC where she specialized in quail management, working tirelessly to promote early successional habitat with private landowners and government agencies. She currently is a regional biologist for Quail Forever.

Elk Update

Missouri's elk herd is growing, and this year's elk restoration work is benefitting from experience gained in 2011.

Restoring elk to Missouri is one way MDC works with citizen conservation groups to sustain healthy wildlife. MDC, in cooperation with the Rocky Mountain Elk Foundation, brought 34 elk from Kentucky to Peck Ranch Conservation Area (CA) last May. This year, it has captured 39 cow elk and 15 bulls in Kentucky with help from the Virginia Department of Game and Inland Fisheries. MDC will receive two-thirds of this year's trapped elk, which are expected to arrive here in May after stringent veterinary health screenings. Virginia will get the remaining elk.

Missouri's share of this year's captured elk will join the 36 elk already living here. Most of the 13 mature cows already in Missouri, along with those that will arrive this spring, are expected to be pregnant and give birth to calves in early summer.

MDC is tracking the movements of Missouri's growing elk herd. The elk are behaving as expected, exploring their new home but mostly staying in the vicinity of green browse fields and open woodland habitat available within the 346-square-mile elk-restoration zone in Shannon, Carter and Reynolds counties. They moved away from hunters during three managed deer hunts at Peck Ranch CA, but quickly returned to the same places after hunters left.

The elk spread out more during summer, while cows were rearing their calves. In the fall, they came together in three loosely organized groups as dominant bulls gathered "harems" of cows.

MDC plans to close the refuge area at Peck Ranch CA during the spring and early summer,

as it did last year. While this is an inconvenience to turkey hunters, it is necessary to avoid disturbance of elk newly arrived from Kentucky and cows with newborn calves. The portion of Peck Ranch CA outside the marked refuge fence remains open to hunting and other activities.

75th Anniversary TV Special

Take a trip through conservation history by watching MDC's 75th-anniversary television special, *The Promise Continues*.

The video journey from 1937 to the present traces Missouri's groundbreaking conservation movement through historic photos, movies and recordings of Missouri conservation pioneers. These citizens and professionals turned the promise into a reality and turned Missouri into a great place to hunt, fish, hike and generally enjoy nature.

The list of cities, stations and times in April the program will air:

CITY	STATION	DATE	TIME
St. Louis	KPLR/cw	15	2 p.m.
Kansas City	KCTV /cbs	14	Noon
	KSMO/mytv	14	4 p.m.
Springfield	KOLR/cbs	14	Noon
		15	11:30 a.m.
	KOZL/ind	14	Noon
Cape Girardeau	KFVS/cbs	14	Noon
		16	11:05 p.m.
		18	11:05 p.m.
Columbia/ Jefferson City	KOMU/nbc	14	Noon
		15	10 a.m.
		21	Noon
	KMOS/pbs	14	7:30 p.m.
		15	10 p.m.
Joplin	KSNF/nbc	14	8 a.m.
		14	6:30 p.m.
		15	9 a.m.
	KODE /abc	14	5 p.m.
		15	1 a.m.
		15	9 a.m.
St. Joseph	KQTV/abc	14	1:30 p.m.
		14	6 p.m.
		15	10:30 a.m.
Kirkville	KTVO/abc	14	1:30 p.m.
		21	1:30 p.m.

Did You Know?

We help people discover nature.

Fun Events Around the State

» **Find an event near you!** MDC offers a wide variety of events across the state to help people of all ages discover more about nature and enjoy the outdoors. Below is just one example in each of our regions. Go online to find more events at mdc.mo.gov/node/252.

» **St. Louis region**, *Butterfly Gardening With Tom Terrific* at Powder Valley Conservation Nature Center in Kirkwood, Saturday, April 14, 10–11:30 a.m. Reservations required; please call 314-301-1500.

» **Kansas City and Northwest regions**, *Trapping Education* at Lake City Range in Bucknor, Saturday, May 12, 9 a.m. to 5 p.m. Reservations are required by April 22; please call 816-249-3194.

» **Southwest region**, *Morels and More: Missouri's Wild Spring Mushrooms* at Springfield Conservation Nature Center, Tuesday, April 17, 7–8 p.m. Registration required by April 17; please call 417-888-4237.

» **Central region**, *Beginning Fly Fishing from A–Z* at Runge Conservation Nature Center in Jefferson City, Thursday, April 19, 5:30–8 p.m. Registration required by April 19; please call 573-526-5544.

» **Ozark region**, *Dutch Oven Cooking* at Twin Pines Conservation Education Center in Winona, Saturday, May 19, 10 a.m. to 1 p.m. Reservations are required by May 16; please call 573-325-1381.

» **Southeast region**, *Digital Camera Scavenger Hunt* at Cape Girardeau Conservation Nature Center, Saturday, April 14, 2–4 p.m. Registration required; please call 573-290-5218.

» **Northeast region**, *Crappie Clinic* at MW Boudreaux Memorial Visitor Center at Mark Twain Lake, Saturday, May 12, 9 a.m. to 4 p.m. Reservations required by May 9; please call 660-785-2420 or email Rob.Garver@mdc.mo.gov.

CRP Sign Up

Over the past 26 years, the federal Conservation Reserve Program (CRP) under the U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) has created millions of acres of upland and wetland habitat for wildlife by offering payments to farmers for taking highly erodible farmland out of production. Efforts continue with the USDA's and Missouri Farm Service's recent announcement of a CRP general sign up March 12–April 6.

According to the FSA website, "CRP is a voluntary program that helps agricultural producers use environmentally sensitive land for conservation benefits. Producers enrolled in CRP plant long-term, resource-conserving covers to control

soil erosion, improve water and air quality and develop wildlife habitat. In return, FSA provides participants with rental payments and cost-share assistance. Contract duration is between 10 to 15 years."

The USDA estimates that 6.5 million CRP acres are scheduled to expire nationwide in September with more than 377,000 of those acres being in Missouri.

For more information on the CRP general sign up, contact the local USDA Service Center and speak with an FSA representative or MDC private land conservationist. Visit the FSA website at fsa.usda.gov/crp for details. To find your regional MDC contact, see Page 3 for phone numbers.



Bringing Back Wildlife



MDC is celebrating the 75th anniversary of putting
the state's citizen-led conservation efforts into
action. In this issue, we highlight the restoration and
conservation of Missouri's wildlife.

by BRETT DUFUR

T

oday, Missouri is again home to abundant and diverse wildlife. Some animals benefited from early restocking efforts, better regulations and vigilant enforcement. Others rebounded thanks to habitat improvements, conservation partnerships, and education and outreach efforts. And all wildlife benefited from the unwavering involvement and support of Missourians every step of the way.

RALLY TO CONSERVE DWINDLING WILDLIFE

Early settlers found wild turkey, prairie chickens, deer and elk in numbers beyond counting. “The early perception

Wildlife can’t survive without food, cover and water. MDC started a pond-building program after withering droughts in 1934 and 1936, and within a decade more than 50,000 ponds soon dotted Missouri’s countryside.

was that wildlife was incredibly abundant—it was an item in the pantry,” says MDC Commissioner Don Johnson. “Clearly those early settlers thought that the wildlife of the state was inexhaustible and limitless, and probably assumed it would be that way forever. Well, it wasn’t.”

Determined to create a brighter future for the state’s wildlife, Missouri’s sportsmen and concerned citizens came together to lay the groundwork for a new science-based conservation department. On Nov. 3, 1936, voters approved the measure by the largest margin of any amendment to the state constitution. This amendment gave Missouri the world’s first apolitical conservation department, governed by four citizen conservation commissioners. Their charge: to protect and manage Missouri’s fish, forest and wildlife resources.

The newly created Conservation Commission implemented an entirely different approach to fish, forest and wildlife management. Public desire replaced political pressure, and biological data replaced personal opinion



NATIONAL WILD TURKEY FEDERATION

The National Wild Turkey Federation plays an important role in the conservation of Missouri's wild turkey population, and it helps Missouri remain one of the nation's top wild turkey states. Missouri has 116 Federation chapters, totaling more than 13,300 members. Approximately half of the proceeds of their chapter fundraisers support the Department's priority upland habitat projects.

"The Federation has been a tremendous

partner in conservation here in Missouri," says MDC Deputy Director Tom Draper. "Not only have they been responsible for a great deal of on-the-ground wildlife habitat improvement, but they also do an outstanding job of getting folks involved in the outdoors through their outreach efforts."

The Federation's primary focuses in Missouri are on habitat enhancement, promoting hunter access, wild turkey research, and outreach and education. Since 1985, the Federation has invested \$3.5 million in Missouri. The Federation's habitat enhancement projects

have improved almost 35,000 acres in the state. Significant dollars have also been spent on education, scholarships and outreach events for youth, women and people with disabilities.

In recent years, the Federation's state chapter has provided significant funds to help landowners make habitat improvements in southwest and northeast Missouri. The state chapter also has partnered with The Nature Conservancy to restore almost 1,000 acres of tallgrass prairie in the Grand River grasslands of north-central Missouri. Learn more at nwtf.org.

as the basis for management. New conservation concepts centered on the importance of habitat and the responsibility to safeguard the resource.

Conservation—the concept of wise use—allowed the harvest of wildlife at sustainable levels.

The fledgling Conservation Department based many of its programs on a benchmark study written by biologists Rudolf Bennitt and Werner Nagel, *A Survey of Resident Furbearers of Missouri*, published in 1937. Their findings were grim—only about 2,500 turkeys and 1,800 deer remained in the state. Prairie chickens, ruffed grouse, beavers, otters and raccoons also were scarce. Other species, such as passenger pigeons and Carolina parakeets, were long gone.

In 1937, hunters harvested only 106 deer in the entire state. In 1938, the Department closed deer and turkey

seasons statewide and began live-trapping and restocking deer throughout the Ozarks. Efforts to provide the "big three" of food, water and cover for deer and other wildlife took many forms. For example, in 1939, MDC launched a pond program, helping Missourians create more than 50,000 new ponds for wildlife in the decade that followed.

Through the 1940s and 1950s, deer and wild turkey were the focus of the Department's major restoration efforts. The Department developed deer refuges with food plots and protected these areas from wildfire, overgrazing and poaching. Deer herds responded dramatically. By 1944, Missouri's deer population increased to an estimated 15,000, and a bucks-only deer season reopened in 20 southern counties. That year, 7,557 resident hunters harvested 583 deer. In 1959, deer season reopened in all Missouri counties, ushering in a new focus of deer management to maintain desirable population levels. Today, Missouri offers some of the best deer hunting in the country. In recent years, nearly 500,000 gun and bow hunters typically harvest around 300,000 deer annually.

"Deer management today is about managing for stable populations at socially acceptable levels," says Jason Sumners, MDC resource scientist. "About 93 percent of Missouri's land is in private ownership. As a result, landowners hold the key to managing deer numbers in rural Missouri. MDC works with landowners to help them achieve their deer management goals."

Today, Missouri is also one of the top wild turkey hunting states in the country, but this was not always the case. Back in 1938, turkey season was closed because there were so few birds. In 1952, the final tracts of what would become the Peck Ranch Conservation Area were acquired for turkey restoration. From 1954 to 1979, turkeys trapped at Peck Ranch and other areas of the state were relocated to 142 sites in 87 counties. Missouri's modern turkey season began when the spring turkey



White-tailed deer

Through the 1940s and 1950s, deer and wild turkey were the focus of the Department's major restoration efforts. The Department developed deer refuges with food plots and protected these areas from wildfire, overgrazing and poaching. Today, nearly 300,000 deer are harvested each year.

season reopened in 1960, during which 698 hunters bagged 94 birds. Fall archery season reopened in 1975, and the first fall firearms season followed in 1978.

Missouri's wild turkey restoration program is a huge success, and today, Missouri's turkey population is estimated to be about 500,000 birds strong. All 114 counties now have stable turkey populations that allow hunting, and 101 of these counties have wild turkeys that can be traced back to restocking efforts. In 2011, more than 50,000 birds were harvested.

PAST SUCCESSES LEAD TO A BROADER CONSERVATION BASE

As Missouri's deer and turkey populations were successfully recovering, it was apparent that many other plants and animals benefited from the improved habitat. "In the early years, those key species were so deficient in numbers that they demanded attention," says Deputy Director Tim Ripperger. "But as the conservation field has matured, we began to recognize that those game species represent just a small slice of Missouri's total biodiversity and there are many other creatures out there, some large, many small, that are similarly threatened."

Beginning in the 1970s, the Department made a pledge to Missourians to embrace a broader conserva-

tion approach called the Design for Conservation. It was a plan to conserve the best examples of forests, prairies, marshes and glades; to obtain land for recreation, forestry and conservation of critical habitat; to increase services to the public in the areas of wildlife and forest conservation; and to create a system of conservation nature centers throughout Missouri.

Missouri voters approved the Design for Conservation sales tax in 1976. This one-eighth of 1 percent sales tax provides dedicated funding required for the conservation of fish, forests and wildlife. In addition to deer and turkey, a great variety of wildlife benefits from this broader approach to conservation, ranging from hellbenders and collared lizards, to bluebirds and eagles, to otters and, most recently, elk.

"Most of our conservation success stories involve Missourians digging in their heels to turn around declining populations," says Gene Gardner, MDC's wildlife diversity chief. "Bringing back the bluebird, our state bird, is an excellent example of how people came together and did something about it. Our state bird became much more abundant once people started building nest boxes and creating bluebird trails across the state."

For eagles to rebound, it took a combination of state and federal efforts. Fifty years ago, bald eagles were on the ropes due to habitat loss, poisoning from pesticides, such as DDT, and illegal shooting. From 1962 to 1981, Missouri did not have a single known successful eagle nest. Restoration of habitat, aggressive law enforcement and a national ban on DDT gave eagles a fighting chance. In the 1980s, the Conservation Department placed 74 wild-hatched eaglets in artificial nests throughout Missouri.

Today, more than 200 eagle nests dot the state and bald eagles have been removed from the state and federally endangered species lists. Eagle Days have become popular events throughout the state, with thousands of Missourians flocking to see these majestic birds. In the lower 48 states, the bald eagle population has climbed from an all-time low of 487 nesting pairs in 1963 to an estimated 9,789 nesting pairs today.

Peregrine falcons also benefited from MDC restoration efforts in both St. Louis and Kansas City. Experts believed peregrine falcons would find big city skyscrapers as acceptable as steep cliffs, the peregrines' preferred habitat. As a result of imprinting those sites on a number of nesting peregrines, these birds now return to the city



Peregrine falcons have adapted to urban landscapes. You can view peregrine falcons raising chicks in a nest box at Ameren's Sioux Energy Center in St. Louis through a cooperative effort among the Department of Conservation, Ameren Missouri and the World Bird Sanctuary. A camera near the birds' nest box provides video that can be viewed at mdc.mo.gov/node/16934.



MDC continues important restoration and conservation efforts today, from the more headline-grabbing species, such as elk (above), to the tiniest insects, such as the Hine's emerald dragonfly (right).

skylines to bear their young, much to the enjoyment of many city-dwelling nature lovers.

ALL WILDLIFE CONSERVATION

Today's conservationists focus on conserving all plants and animals, and the natural systems on which they depend. This "all wildlife" conservation approach differs from traditional fish and wildlife management, which focused on restoring single species. After all, the survival of one plant or animal is often inextricably linked to the health and well being of the entire ecosystem.

"I expect many people think the Department's expertise focuses on single species, because some of the best known success stories involve bringing back wildlife that we now highly value," says John Hoskins, retired MDC director. "But today we strive to conserve wildlife in a broader sense—trees, insects, wildflowers, grasses, animals and all the rest. The descriptive phrase often heard is 'preserve and restore our state's biodiversity.'"



WILDLIFE RESTORATION CONTINUES TODAY

MDC continues important restoration and conservation efforts today, from the more headline-grabbing species, such as elk, to the tiniest insects. Last year, the Department, in partnership with the Kentucky Department of Fish and Wildlife Resources and the Rocky Mountain Elk Foundation, relocated 34 wild elk from the Appalachian Mountains of eastern Kentucky to Missouri's Peck Ranch Conservation Area. Decades of ecological restoration have returned Peck Ranch to

conditions similar to those that existed here when elk last trod the Ozark hills 150 years ago.

But “smaller” successes are just as important to conserving Missouri’s complex webs of life. The eastern collared lizards, which almost disappeared from the Ozarks due to overgrown glades, are now more common and widespread due to glade restoration and a successful reintroduction program.

Barn owl populations increased in the 1990s after nest boxes were more widely provided. Although barn owl numbers remain low across the state, they were recently removed from the state endangered species list—illustrating how even small efforts can help wildlife rebound.

Small fens in the Ozarks were restored to help the endangered Hine’s emerald dragonfly, in a partnership with landowners and the U.S. Forest Service. This beautiful dragonfly needs very specific wetland habitat that includes wet soils with crayfish burrows. By removing invading trees and keeping the fens open, we ensure the survival of both the crayfish and the Hine’s emerald dragonfly.

Conserving bottomland hardwood forests and associated wetlands benefits a number of bottomland species, including a declining number of western chicken turtles. Although still in danger of extinction, conservation efforts are beginning to show success.

Conservation efforts are also beginning to stabilize the last remaining populations of the massasauga rattle-



Not content to rest on past achievements, MDC is forging ahead with efforts to save prairie chickens.

snakes in Missouri by managing their wet prairie habitat. Persecuted to near extinction in Missouri from fear or misunderstanding, these snakes eat rodents, other small mammals and amphibians found in the wet prairies of northern Missouri.

CHALLENGES REMAIN

These examples are but a few of the many restoration and conservation success stories in Missouri. Reading these stories of Missouri’s citizen-led efforts to restore wild-

DUCK STAMPS BENEFIT WILDLIFE AND PEOPLE

Since 1934, the sales of federal Duck Stamps have generated more than \$750 million to help purchase or lease more than 5.3 million acres of waterfowl habitat in the United States. For every \$1 spent on Duck Stamps, 98 cents goes directly to purchase vital habitat for protection in the National Wildlife Refuge System.

Waterfowl are not the only wildlife to benefit from Duck Stamps. Many plants and animals that rely on wetland habitats have also prospered, including a variety of birds, mammals, fish, reptiles and amphibians. In addition, an estimated one-third of the nation’s endangered

and threatened species find food or shelter in refuges established using Duck Stamp funds.

“The Duck Stamp Program did more than just raise dollars for habitat; the artwork reached more people, outside of hunters, to become passionate and engaged in conservation work,” says Doyle Brown, MDC’s federal aid coordinator. “If there were no duck stamps, there would be virtually no waterfowl or other migratory birds in Missouri or in the rest of the country.”

People benefit from the Duck Stamp Program, too. Missourians have places to enjoy their hunting heritage and places to boat, fish and watch wildlife. Moreover, healthy wetlands help purify water supplies, store floodwater, reduce soil erosion and sedimentation, and provide spawning areas for fish important to anglers.



Understandably, the Federal Duck Stamp Program has been called one of the most successful conservation programs ever initiated and is a highly effective way to conserve America’s vital wetland resources. Learn more at go.usa.gov/nmj.



life, it is easy to think the hard work of conservation is complete. Yet, the same challenges of ensuring sufficient food, water and cover continue today. In many ways, challenges to wildlife are greater than ever.

"A lot of these habitats are a fraction of what they once were," says Gardner. "The remaining areas must do double duty to help many more plants and animals make the rebound—from wetlands to forests to grasslands. Sometimes that's as easy as leaving habitat edges along crop fields, thinning forests or using fire to improve habitat."

BUILDING ON OUR LEGACY

The Department has worked with tens of thousands of Missourians over multiple generations to benefit many wildlife species and their habitats. "There have been some incredible success stories that now make wildlife readily available to any Missourian who wants to get out there and either pursue them with a gun, fishing rod, binoculars or a camera," says MDC Director Robert L. Ziehmer.

Looking back at Missouri's low point for wildlife, and seeing where we are today, "The promise was absolutely fulfilled," Ziehmer continues. "In the case of deer, popu-

Ethics are the unwritten rules of traditional outdoor values. Ethics are what guide a hunter's behavior when no one else is looking. Personal accountability, conduct and decisions cannot be legislated, but they are among the foundations of science-based conservation and wildlife management.

lations were restored to a level where we now support annual deer harvest totaling 300,000 taken by archery and gun hunters. We have 500,000 deer hunters, generating more than \$1 billion of overall business activity and supporting more than 11,000 jobs. In the case of deer, turkey and other wildlife species, absolutely that promise has been fulfilled."

MDC is dedicated to helping Missourians conserve our state's great natural heritage for new generations. Not content to rest on past achievements, the Department is forging ahead with efforts to save prairie chickens, boost quail populations, and find new approaches and partners to further conserve and restore Missouri's important fish, forest and wildlife resources. ▲

Bad-Weather Photography

Rain, snow and clouds add natural drama to your photos.

by NOPPADOL PAOTHONG

► THUNDERSTORM AT DUNN RANCH

A fast approaching thunderstorm came unexpectedly from the west just before sunset at Dunn Ranch in Harrison County. This weather pattern added an interesting element to the image. Using a polarizing filter helped to bring out the texture of the clouds.

📷 17-40mm lens • f/10 • 1/10 sec • ISO 400



SPRING IS UPON US; FLOWERS ARE BLOOMING and birds are singing. The return of warmer weather inspires us to get outside and pursue activities such as nature photography. However, spring can also mean rainy weather or even unexpected snowstorms. When rough weather approaches, most people pack up their photo gear—and miss great opportunities. These weather patterns offer some of the most unique situations for nature photography.

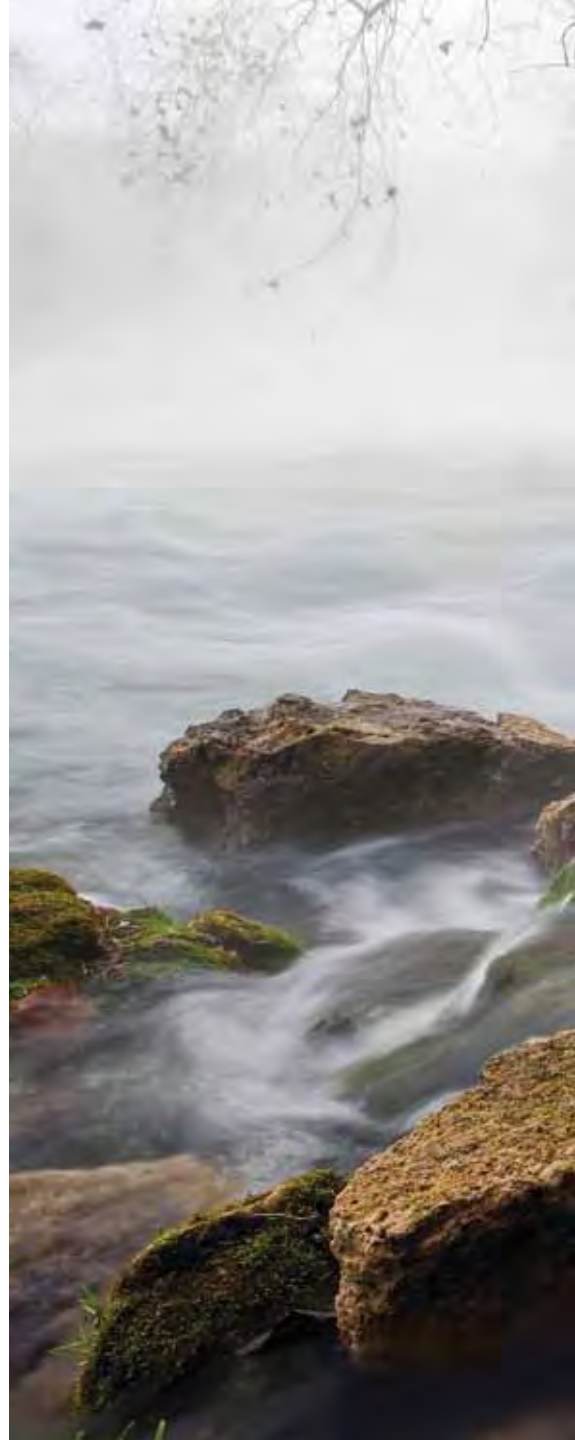
It's not spring without rain, but you can still enjoy outdoor photography as long as you keep yourself and your camera dry. Rain fills intermittent streams and creates waterfalls that do not exist during dry weather, or swells those that were only a trickle. I have seen many incredible images taken during the rain, especially in landscape photography, where you can see raindrops in the photo! Rain brings color saturation, especially in high-contrast subjects such as flowers. Water drops on a flower or a leaf can lift a subject from the ordinary and make for an eye-catching and dynamic photo.

Shooting during cloudy weather can be as exciting and rewarding as on a bright sunny day. Overcast light can help render subtle detail and bring out the best color, especially with flowers. Clouds act like giant umbrellas that soften light that would otherwise cast too much shadow and harsh highlights on the subject. Often people will overlook overcast weather, but for me it is a great opportunity to create some very nice images.

Snowy days, however, are by far my favorite. White snowflakes add dynamic elements to a scene that might otherwise be ordinary or uninteresting. I spend a lot of time outside during snowstorms because it results in nearly endless possibilities to create stunning images, especially of wildlife. Birds will concentrate on feeding and ruffle their feathers to keep their bodies warm. This makes them much more interesting to photograph. The snow also reflects a lot of light, helping illuminate subjects. It gives a nice contrast to the landscape, especially with trees that are covered by fresh snow. Both landscape and wildlife photography can benefit from the effect of snow.

Keeping your gear functional while shooting in this type of weather is critically important. I carry a plastic bag (trash bags work well) to keep my camera dry and a cloth to wipe water off my lens. Also, when you go back inside after shooting in cold weather, remember to leave your camera and lens inside your camera bag for few hours. This allows your camera to slowly warm back up to room temperature and will help keep condensation from forming inside your camera and lenses. As with any outdoor activity in inclement weather, be sure to allow yourself extra time when traveling and use caution when hiking, especially around water or slippery slopes.

The next time you plan an outing and then hear about rough weather in the forecast, don't let it deter you. Explore "bad-weather" photography—it is a great opportunity to create some of your most memorable images. ▲





▲ BIG SPRING

On a cold morning one fall, fog rose from the warm natural spring at Big Spring in Van Buren. A slow shutter speed captured the flow of the stream, giving an artsy mood to the image.

📷 24–70mm lens • f/22 • 3/4 sec • ISO 100

◀ WESTERN KINGBIRD

This western kingbird landed on a wire cable while feeding on an insect during a torrential rainstorm. A fast shutter speed increased the camera ISO, allowing the camera to capture the image in low light, and it also helped show raindrops.

📷 600mm lens + 2x teleconverter • f/8 • 1/320 sec • ISO 1600







◀ CAMERA IN SNOW

A camera and lens are covered with snow after waiting for a bald eagle to catch a fish on the icy Mississippi River during a snowstorm. Outdoor photography can be hard on equipment. Fortunately, most professional equipment can tolerate harsh environments as long as you clean it and let it dry after using.

📷 17–40mm lens • f/10 • 1/60 sec • ISO 800



◀ TUFTED TITMOUSE

This tufted titmouse perched on a tree branch with blooming flowers covered by a spring snowstorm. In bad weather, birds are not as alert or skittish, which provides an excellent opportunity to approach them.

📷 500mm lens + 2x teleconverter • f/8 • 1/800 sec • ISO 800

▲ DEW DROPS ON GRASS

Dew drops covered this leaf early one morning after a cool night. An overcast morning helped saturate the overall color and bring out the shiny leaf without being overblown by direct sunlight.

📷 100mm lens • f/5.6 • 1/40 sec • ISO 400

LIVING WITH **LARGE CARNIVORES**

Bear and mountain lion sightings have increased in the Show-Me State.

by JEFF BERINGER



CANDICE DAVIS



BLACK BEARS AND MOUNTAIN LIONS are making their way back to Missouri. While some of these animals are only passing through, others are likely here to stay. Learning about our new neighbors is both interesting and important for safe interactions.

Recolonizing

Black bears have recolonized portions of their former range in Missouri, Arkansas, Oklahoma and Kentucky. Recent estimates suggest there are more than 6,000 bears in the four-state region. We are in the process of determining the portion of these bears that reside in Missouri. So far, we know that Missouri bears are healthy, the population is growing slowly, and their range is largely limited to areas south of Interstate 44.

This natural recolonization was not expected. Daniel McKinley, in 1962, authored the article *The History of the Black Bear in Missouri*, and in the introduction he states that “although their time has long since passed, bears have a well-documented history in early Missouri.” I wonder what he would think today.

Since 1994, we’ve been able to confirm 28 incidents of mountain lions in the state; since last November, we’ve confirmed 18. I attribute the uptick in mountain lion sightings partially

MDC encourages all citizens to report sightings, physical evidence, or other incidents of black bears or mountain lions in Missouri so they can be thoroughly investigated.



Black bear paw print

to new technology and partially to the fact that more cats are dispersing into states east of their current range. Certainly, the popularity of trail cameras has helped us to confirm the presence of many of these cats. DNA has also enabled us to confirm and identify the origin and sex of cats from only a few strands of hair.

Why Do Large Carnivores Disperse?

Dispersal is the one-way movement of an animal from its birth site to an independent living area. The drive to disperse is strong in males of most large carnivore species. No one knows for sure why males disperse, but we do know that dispersal reduces competition, recolonizes vacant habitats and keeps populations from becoming inbred. Without these dispersal tendencies we probably wouldn’t have black bears or mountain lions in the state.

From Where Are They Coming?

In the 1960s, Arkansas released 254 bears that were translocated from Minnesota and Manitoba, Canada. It’s likely that some of these bears immediately dispersed into Missouri and formed the source population for the bears we have today. In addition, there is some DNA evidence that suggests we may have had a small remnant bear population that was supplemented by the Arkansas release. Today it is likely that most of our bears are Missouri natives, since we have had reproduction for at least a couple decades.

Things are a little different for mountain lions. The main source of our lions appears to be the Black Hills of South Dakota and perhaps the Pine Ridge-area of Nebraska. Analysis of



WHAT TO DO

A summary of black bear and mountain lion predatory behavior and suggested associated human responses

ANIMAL ACTIVITY	MEANING	HUMAN RISK	APPROPRIATE RESPONSE
Bear or mountain lion far away and moving away or in a tree	Secretive and avoidance	no threat	Keep children where they can be observed, slowly back away
Bear or mountain lion more than 100 yards away, various positions and movements, attention directed away from people	Indifference	no threat	Remain calm, don't crowd animal, ensure animal has an escape route. Avoid rapid movements, running, loud, excited talk. Alert animal of your presence, slowly back away.
Bear stands on hind legs	Attempting to see or smell	no threat	Alert bear of your presence, slowly back away
Bear or mountain lion 50 yards away, various body positions, intent attention toward people, following behavior	Curiosity	Slight for adults given proper response	Hold small children; keep older children close to an adult. Do not turn your back on animal. Assume standing position. Look for sticks, rocks or other weapons and pick them up, using an aggressive posture while doing so. Make this a negative experience for the animal.
Bear vocalizing in form of huffs, snorts, jaw popping	Bear feels threatened or stressed	Slight threat with appropriate human response	Do not crowd or feed animal, slowly back away
Mountain lion closer than 50 yards, intense staring at humans, hiding, creeping or crouching	Assessing success of attack	Human threat	All of the above steps, plus place older children behind adults. If a safer location or one above the mountain lion is available, go there. Do not run. Raise hands and other objects such as jackets above head so as to present image of bulk as high as possible. Prepare to defend yourself.
Bear approaches or follows person despite efforts to harass it away	Bear probably looking for food, may have been fed by humans in past	Human threat	Raise arms, open coat to appear large, make loud noises, throw rocks and objects at bear, slowly back away
Mountain lion or black bear actually attacks and makes physical contact	Defensive or predatory reaction	Human threat	Prepare to defend yourself in close combat. Pepper spray may be effective if animal is close enough and downwind. Fight back; if you have weapons, use them. Make menacing noises. If you have any chance of averting it, it is by acting aggressively toward the animal.

DNA from tissue and hair samples collected from Missouri mountain lions indicates that the cats were born more than 800 miles away. Whether these animals actually establish home ranges in Missouri is questionable.

Mountain lion researchers suggest that young males disperse at a high rate but don't settle into a home range until they have found a mate. We did some detective work on a radio-collared male that was photographed in Linn County last winter and found that the cat probably originated in South Dakota. It was photographed in Michigan this past October, probably still looking for romance.

Females generally don't disperse far from their birth sites (less than 75 miles), so we have only a small chance of a female making it to Missouri. However, as mountain lions colonize former ranges in Nebraska, the likelihood of female dispersal to Missouri increases.

Living With Large Carnivores

Black bears, mountain lions and human populations coexist throughout North America. As human populations grow, the likelihood of interactions with these animals will increase. Most folks consider it a lifetime experience to see a black bear or mountain lion in the wild. With black bears, these situations usually involve human foods, and that can lead to problems. Mountain lions aren't interested in human foods but are occasionally seen by hikers or hunters.

Black Bears

Bears are adaptable, intelligent animals and may learn to associate humans and their homes

or campsites with food. Bears are attracted to these areas by the smell of food. In this regard, bears are much like teenage boys—they are always hungry.

In Missouri, common food attractants include bird feeders, garbage and pet or livestock food. Residential bear problems usually occur because natural food supplies are limited before berries ripen in the spring and during the fall when acorn production is low.

Typical bear problems involve overturned garbage containers, trash littered across the yard, bears entering dog pens or coming onto porches to eat pet foods or damaging bird feeders. Most bear problems have simple solutions—don't give bears access to whatever they are trying to eat. Put your trash out on the day it is collected; only feed your animals what they can eat that day. Bears that learn to associate food with people can cause property damage in their search for food around houses.

Mountain Lions

The mountain lion is also known by the names puma, cougar, panther, painter and catamount. It, and the much smaller bobcat, are the only wild felines native to Missouri.

Mountain lions' tendency to travel long distances occasionally lands these cats in seemingly inappropriate areas, even places densely settled by humans. We've documented cats near St. Louis and Kansas City, but these incidents are almost always brief, with the animal moving along quickly in its search of a mate. Mountain lions are rarely sighted, even in areas with resident populations. They tend to hunt and travel at night.

RELATIVE RISK

Annual lifetime odds of dying in a specific event in the USA

VERY HIGH

HIGH

MODERATE

LOW

VERY LOW



HEART DISEASE
1 in 5.7



AUTOMOBILE ACCIDENT
1 in 83.7



ANY FALL
1 in 217.5



DROWNING
1 in 1,113.7



STORM/LIGHTENING
1 in 79,746



DOG ATTACK
1 in 208,000



Mountain lion attacks on humans are extremely rare. In North America, roughly 25 fatalities and 95 nonfatal attacks have been reported during the past 100 years. Black bear attacks occur at higher rates, 50 fatalities in the past 100 years. It is important to keep these numbers in perspective. For every one person killed by a black bear, 45 people are killed by domestic dogs, 120 by bee stings and 250 by lightning strikes.

If you encounter a bear or mountain lion, do not escalate the situation by approaching, crowding around or chasing the animal. Pick up small children so they do not run, scream or panic. Restrain dogs. Maintain eye contact,

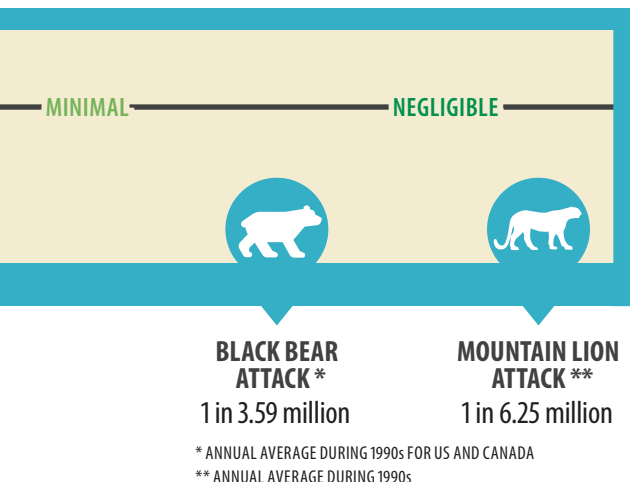
raise your arms to look bigger and back away slowly. For a bear or mountain lion that has climbed up a tree, the best thing you can do is leave it alone. Because these animals are naturally afraid of humans, any animal that feels cornered will be looking for an escape route. By keeping people and pets away, you give these animals the best chance to come down from the tree and leave on their own.

Legal Classifications

Both black bears and mountain lions are protected by our *Wildlife Code*. Bears and mountain lions that are attacking humans or their livestock may be killed without prior permission. Animals killed under this rule must be reported immediately to an agent of the Department, and the intact carcass, including pelt, must be surrendered to the agent within 24 hours.

MDC is not reintroducing or stocking mountain lions or bears. We want to learn more about black bears and mountain lions in Missouri and encourages all citizens to report sightings, physical evidence or other incidents so they can be thoroughly investigated. To make a report, contact your nearest MDC regional office (see Page 3 for phone numbers) or visit our website at mdc.mo.gov/node/4167. ▲

The mountain lion is also known by the names puma, cougar, panther, painter and cantamount. Above, life-size posters depict the relative sizes of a mountain lion, bobcat and housecat.



Field Sparrow

Closer inspection reveals the beauty of this understated resident of Missouri's fields.

SPRINGTIME IN MISSOURI bestows an abundance of sights, sounds and aromas. Natural elixirs to soothe the doldrums of late winter. I'm amazed at how fast the fields around our farm green up, almost overnight. I never grow tired of listening to the call of spring peepers from my tiny pond. A short walk to the woods reveals a canvas of yellow, purple, white and blue. The forest floor debuting its latest collection of fragrant wildflowers. If I'm lucky, I'll spot more flashes of yellow in the trees, travel-weary warblers arriving from their long migration.

Although I cannot select one gift of spring as my favorite, I would have to rate the song of the field sparrow (*Spizella pusilla*) high on my list. The song itself is simple: a series of notes, the same pitch, starting slow and accelerating to a trill. It is not as captivating as the song of the white-throated sparrow, or as haunting as that of the hermit thrush. But as I sit at the edge of a scruffy field, basking in the gentle warmth of the vernal sun, the song of the field sparrow kindles memories of springs past and contemplation of pleasant days to come.

Diminutive, the field sparrow is less than 6 inches long from tip of bill to tip of tail. Some consider its appearance to be as plain as its song. Described in respected field guides as *drab*, the field sparrow is far from a showy specimen. On closer inspection, you'll find an understated composition of browns and reddish-browns, highlighted by wing bars and a rufous cap. Add to that a buff chest, a salmon-colored bill, and a thin, white eye ring and you have, in my opinion, an elegant bird. In spring plumage, as shown in the photograph, the field sparrow is quite beautiful.

The field sparrow is considered common throughout Missouri. It is a summer nester in our state. By winter, most field sparrows have drifted south, at least to southern Missouri, where their status becomes uncommon. As their name implies, field sparrows prefer old fields, woodland openings, glades and edges, where they forage on seeds and insects. They are not too proud to take handouts—I sometimes find them gorging on cracked corn around our chicken coop. Male field sparrows often return to the same territory each spring where they continuously serenade any female within earshot. Once mating is achieved, the female constructs a cup-shaped ground nest of grass, rootlets and hair. Up to five, creamy-white eggs are incubated for about two weeks and nestlings fledge eight days later.

Sometimes in late winter, if I'm feeling a little low, I listen to the field sparrow's song to remind me of greener days just over the horizon. It's easy to do, as this little bird's melody can be found on the Missouri Department of Conservation's website at mdc.mo.gov/node/6611. Of course, the electronic version can never replace the real thing, but if you're like me, you'll still find solace in this simple tune, an aural harbinger of spring.

—Story and photo by Danny Brown

*We help people discover nature through our online field guide.
Visit mdc.mo.gov/node/73 to learn more about Missouri's plants and animals.*





Sunklands CA

Explore the Ozarks' amazing natural diversity at this large, forested area in Shannon County.



SPRING IS A great time to discover the uncommon Ozark landscapes and life forms you can find at Sunklands CA. Depending on your interests, equipment and time, you can gear up and get away for birding, camping, fishing, hiking, hunting during season and nature photography.

Totaling 37,648 acres, Sunklands is one of the largest and most remote conservation areas in Missouri. It includes eight parcels scattered across several different routes between Salem and Eminence. One of the most unique areas within Sunklands is the 5,746-acre Sunklands Natural Area. It contains Missouri's longest sinkhole complex, as well as many other unique geological features. Sunklands also has dozens of intermittent and permanent streams, including 2.6 miles of the Current River. Several upland ponds or sinkholes contain water and form interesting marshlike habitat. These wetlands are rare and important homes to salamanders and other amphibians that require a fish-free environment.

Managers use timber harvests and prescribe burning to restore and enhance the health of Sunklands' forest, woodland and glade natural communities. These management tools maintain the area's exceptional diversity of wildlife habitat.

In April, the area's flowering trees begin putting on their spring show. In particular, redbuds, dogwoods and serviceberry will lace the region in pink and white. Birders will welcome early returning migrant songbirds, including such species as Louisiana waterthrush, pine warbler, yellow-rumped warbler, rose-breasted grosbeak, American pipit and northern parula.

Although walk-in and float-in camping is permitted, there are no amenities and seasonal closures may apply. Anglers can expect good populations of bass, goggle-eye and other species in the Current River. Trout anglers can try their luck at Barren Fork, a blue-ribbon trout stream that flows through the area. Hikers won't find designated trails, but they're welcome to walk the area's many interior access and service roads. The area is open to hunting under statewide regulations, and hunters can pursue deer, dove, quail, rabbit, squirrel and turkey during season.

Sunklands CA is eight miles north of Highway 17 on Route K, then one mile down Route KB. Watch for an area sign at the junction of Route KB and MDC Trail 360. As always, check the area's website for special notices and more directions and details, as well as the area map, brochure and regulations.

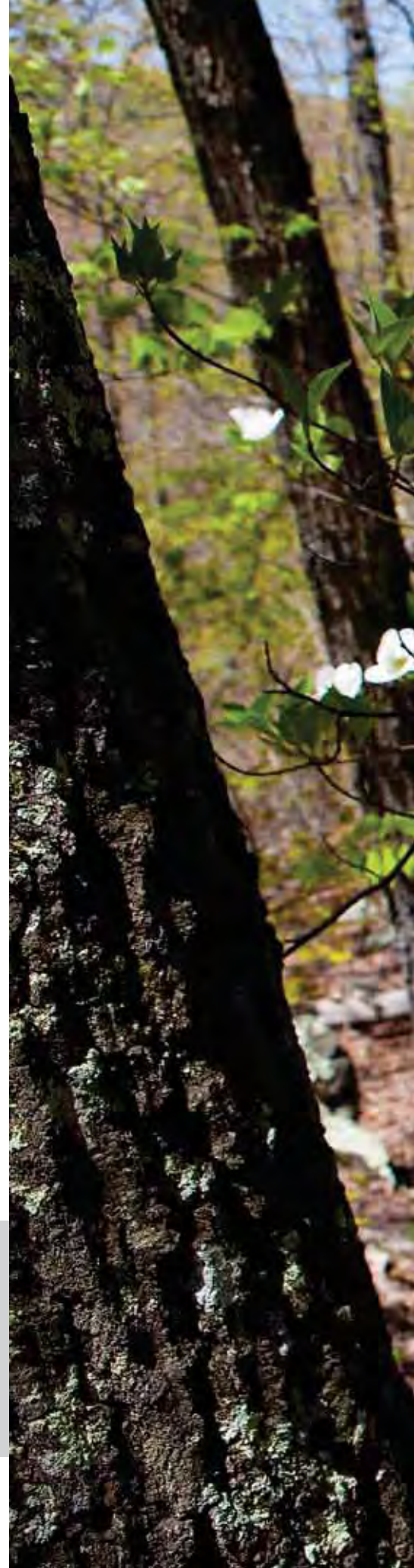
—Bonnie Chasteen, photo by David Stonner

Recreation opportunities: Birding, camping, fishing, hiking, hunting during season and nature photography

Unique features: Mostly forest with savanna and glades, Sunklands Natural Area and the Current River

For More Information

Call 573-226-3616 or visit mdc.mo.gov/node/a9511.





Hunting and Fishing Calendar

FISHING

	OPEN	CLOSE
Black Bass from Ozark streams	5/26/12	2/28/13
Bullfrogs and Green Frogs	Sunset	Midnight
	6/30/12	10/31/12
Paddlefish	3/15/12	4/30/12
Paddlefish on the Mississippi River	3/15/12	5/15/12
Trout Parks	3/01/12	10/31/12

HUNTING

	OPEN	CLOSE
Coyote	5/07/12	3/31/13
Deer		
Firearms		
November	11/10/12	TBA
Furbearers	11/15/12	1/31/13
Groundhog	5/09/12	12/15/12
Pheasant		
North Zone	11/01/12	1/15/13
Southeast Zone	12/01/12	12/12/12
Quail	11/01/12	1/15/13
Rabbit	10/01/12	2/15/13
Turkey		
Firearms		
Youth	3/31/12	4/1/12
Spring	4/16/12	5/6/12
Fall	10/1/12	10/31/12

Waterfowl please see the *Waterfowl Hunting Digest* or see mdc.mo.gov/node/3830

TRAPPING

	OPEN	CLOSE
Furbearers	11/15/12	1/31/13

For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* or the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, *the Fall Deer and Turkey Hunting Regulations and Information*, *the Waterfowl Hunting Digest* and the *Migratory Bird Hunting Digest*. For more information visit mdc.mo.gov/node/130 or permit vendors.



April

Contributors



BRETT DUFUR, an MDC editor, is writing a history of the Department for its 75th anniversary. He has authored numerous books on Missouri's outdoors including the Katy Trail, wine country and the Lewis and Clark Trail. He lives in Rocheport with his family and loves to paddle the Missouri River and explore wild places.

NOPPADOL PAOTHONG discovered his passion for wildlife photography in college in 1995. Born in Thailand, he came to the U.S. in 1993 to study graphic arts before switching to journalism. When not photographing, he enjoys time at home cooking. He lives in Columbia with his family.



JEFF BERINGER has worked for the Missouri Department of Conservation for 25 years. He has two boys and likes to hunt and fish with them.



Celebrating 75 years of serving nature and you!

Check our website for 75th anniversary news, videos and events near you.

mdc.mo.gov/node/16137

AGENT NOTES

Keep Cleaning Up Missouri

"I DIDN'T KNOW it was litter if you couldn't see it."

That was a quote from an individual cited by a conservation agent for littering after she had tried to leave a bag of household trash behind a tree on an MDC area.

Conservation agents spend many hours behind binoculars trying to catch those littering our lands and public waterways. We also use surveillance cameras on illegal dumpsites and problem areas. Although catching litterbugs is important, it isn't the only answer. Education is an important piece of the puzzle.

MDC spends almost \$1 million a year to clean litter from conservation areas and other department locations. MoDOT spends more than \$5 million each year cleaning litter from Missouri's roadsides. Litter is expensive! Not only does it cost to clean it up, it decreases property value and deters commerce and tourism.

According to a study by Keep America Beautiful, littering has decreased 61 percent in the last 40 years. That is encouraging. Anti-litter campaigns such as No MORE Trash! are working. Clean-up efforts by citizen groups such as Missouri Stream Teams have been very successful. So how can we continue this trend?

- Set an example, use trash and recycling bins, even for the smallest of items (tobacco items

are the most littered item on Missouri roadways, 38 percent are cigarette butts).

- Be prepared, take bags for your trash when you go floating or visit recreational areas. Keep a trash bag in your vehicle.
- Litter begets litter, leave an area better than you found it. If you see litter, pick it up.
- Report violators and illegal dump sites to your conservation agent or the appropriate law enforcement agency (see below on how to contact your local conservation agent).

April is the annual No MORE Trash! Bash. The event sponsored is by the Missouri departments of Conservation and Transportation as part of their ongoing No MORE Trash! campaign. During the entire month of April, efforts are aimed at getting people to clean up litter across Missouri from roadsides, parks, neighborhoods, rivers and streams. For more information, visit nomoretrash.org.



David Ingram is the conservation agent for Dent County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.





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I Am Conservation

Fifteen-year-old Austin Muenks, of Loose Creek, harvested this tom turkey during the 2011 turkey season. Muenks started turkey hunting when he was 10 years old. "A couple of my friends from school turkey hunted, and they were telling me how cool it was," says Muenks. "So, I started bugging my dad to take me." Muenks says he didn't get a turkey that first year, or the one after. "The first two years were still fun, because it was kind of a test run," says Muenks. "But, I've gotten a turkey every year since then!" When he bagged this particular turkey, Muenks says they had decided to quit hunting for the day and were walking back to the truck when they saw a turkey out in the field. "So, we hid behind a brush pile and tried to call him in," says Muenks. But, the turkey didn't appear to be taking the bait, so Muenks and his dad decided to call it quits for the second time that day. "We were still sitting in the brush pile, joking around and talking about where we were going to hunt the next day, when I saw the turkey walk into view about 30 yards away," says Muenks. "So, I shot it!" Muenks also hunts for deer, squirrel and ducks. "Turkey hunting is probably my favorite," says Muenks, "because it is the most exciting." —*Photo by David Stonner*